CITRUS ADVANCED TECHNOLOGY PROGRAM

QUARTERLY & FINAL REPORTS: Control of Citrus Greening, Canker & Emerging Diseases of Citrus

▶ INSTRUCTIONS

(●) *Quarterly Report* ( ) *Annual Report* ( ) *Final*

Required: What is the "headline" for this report (e.g. a one-sentence "newspaper headline" describing what you accomplished)

Evaluation of ACP control programs on non targets

Proposal Title

Impact of insecticidal control of Asian citrus psyllid (ACP) on leafminers, mites, scales, thrips and their natural enemies in Florida

Today's Date	Sponsoring Organization (drop-down)	Category (drop down)
10/12/11	Citrus Research and Development Foundation	Vector Management

REPORT UPDATE (500 words; summarize your accomplishments)

We continue to conduct replicated experiments and measure the impact of psyllid control programs on non target pests and beneficial insects. During this quarter, experimental blocks at commercial and SWFREC groves were sampled for psyllids, citrus rust mites, citrus red mite, predatory mites, snow scale, chaff scale, Glover scale, purple scale, citrus blackflies, whiteflies, mealy bugs, as well as their natural enemies. Only more common species are reported. The experiment in Collier county compares 4 treatments (1) Nutritional (2) Insecticides (3) Insecticides + Nutritionals and (4) Untreated control. Insecticides currently recommended for psyllid control are used when adults exceed 0.2 per tap sample and nutritional products and their application timing follow a program developed by McKinnon Corporation averaging three sprays per year. CRM were high on fruits in the treatments using insecticides (0.2-0.3/lens field) compared to nutritionals and control (0.02-0.03/lens field). However, chaff scale was not observed in the samples conducted in insecticide treatments compared to 0.1/lens field in the nutritional and control treatments. Shoots infested with woolly whitefly averaged 9-12% in insecticide treatments compared to 19-27% in nutritional and control treatments. Threshold levels of psyllid population were not reached this quarter in two experiments in Hendry county, one in a 35 acre block of 'Early Gold' and the other in a 16 acre block of 'Valencia'. However plots designated for calendar sprays received of a rotation of insecticides recommended for ACP control applied every month: abamectine (Agri-Mek SC) at 3.5 fl oz/ac + horticultural mineral oil 2% in July, malathion (Gowan Malathion 8F) at 2.5 pt/ac in August and fenpropathrin (Danitol 2.4 EC) at 16 fl oz/ac in September. Psyllid adults per tap sample averaged 0-0.01 in the treated plots and 0-0.08 and 0-0.2 in the control of Early Gold and Valencia, respectively. Citrus rust mites and chaff scale did not differ between treated and untreated plots. However, only 2% shoots were infested with woolly whitefly in treated plots compared to 34% in control plots of 'Valencia'. Shoot infestation with woolly whitefly averaged 36% and did not differ between plots treated with grower standard sprays, biweekly spray of 435 oil or untreated check in a10.9 acre block of 'Valencia' in Lee county. Citrus rust mite and chaff scale averaged 1.9 and 0.35 per lens field, respectively, and did not differ between the three treatments. Psyllids in the grower standard, oil and control treatments averaged 0.03, 0.24 and 0.35 per tap sample, respectively. A study conducted at the SWFREC used 16 yr old Valencia orange trees and tested 13 treatments of Danitol 2.4 EC, Actara 25 WG, Agri-flex, Voliam Flexi, Dibrom 8 E, Portal 0.4 EC and MBI203 DF1. All treatments provided significant reduction in psyllid populations for one month. However, treatment effects against citrus leafminer were very short lived. Significant reduction was observed at 3 days after treatment (DAT) with Danitol 2.4 EC, Actara 25 WG, Agri-flex, and Dibrom 8 E all applied with 435 oil and Voliam Flexi and Portal 0.4 EC applied alone. Only Agri-flex + 435 oil and Voliam Flexi were providing significant reduction at 10 DAT. It seems that calendar or grower standard treatments and experimental treatments suppressed psyllids but did not reduce non target pests in most situations, creating need for additional applications and negative impacts on predators and parasitoids. Psyllid populations were very low during the reported period and fewer or no sprays were warranted based on thresholds.

PI First Name Jawwad

PI Last Name Qureshi

Email jawwadq@ufl.edu

Phone 239-658-3400

Organization SWFREC - University of Florida

Contract Number 00076787

Project Duration (years) 3 *Year of Project* 2

Total Funds (current year) $89,314.00

SUBMIT REPORT

CITRUS RESEARCH AND DEVELOPMENT FOUNDATION, INC.